



RECEIVED

APR 21 2003

TECHNOLOGY CENTER R3700

New Claims

*NE
R3700*

1. A method for exchanging shears (3) in the cutting to length of strips (1) or sheet metal in the rolling or transport line (x-x), in particular, on a rolling table (2), with blade holders (4, 4'), one arranged above and one arranged below the strip (1), which blade holders are guided by means of holding elements (5, 5'; 6, 6'), characterized in that the shears (3) can be moved together with the blade holders (4, 4') and with their holding elements (5, 5'; 6, 6') after each cut out of the rolling line (x-x) to the side into a neutral waiting position, while the strip or sheet metal is in the rolling or transport line, and that, before moving out the shears 3, the forward connection between the blade holders (4, 4') or between the holding elements (6, 6') overlapping the rolling line (x-x) is opened, and that the shears (3) for a subsequent cut are moved into the rolling line so as to overlap it in a U-shape, and that the forward connection is closed and, by employing a clamping element (7 or 32), is coupled positively and non-positively before a subsequent cut, wherein, when moving the shears (3) into the rolling or transport line (x-x), a part (2') of the rolling table (2) is moved out of the rolling or transport line (x-x) to the side and, simultaneously with moving the shears (3) out of the rolling or transport line (x-x) into the waiting position, the part (2') of the rolling table is again moved into the rolling table.
2. A device for exchanging shears (3) in the cutting to length of strips (1) or sheet metal in a rolling or transport line, in

particular, on a rolling table (2), for performing the method according to claim 1, characterized in that the shears (3), inclusive of the drive apparatus (8), are arranged on a rail-guided drive carriage (9) which, while the strip or sheet metal is positioned in the rolling or transport line, is movable by means of a drive (10) transverse to the rolling or transport line (x-x), wherein the shears (3) comprise a U-shaped frame (20) open toward the rolling or transport line (x-x) and closed at the drive side, on which, at the drive side as well as the rolling table side, holding elements (5, 5'; 6, 6') are provided having bearings for the blade holders (4, 4') arranged therein, and wherein the drive carriage (9) is coupled with a movable part (2') of the rolling table (2).

3. A device according to claim 2, characterized in that the drive carriage (9) at the rolling table side receives at least one clamping element (7) with actuating members (11, 25, 30, 36).
4. A device according to claim 2 or 3, characterized in that the U-shaped open side of the frame (20) has correlated therewith a clamping element (7) coupling together the holding element (6, 6') at the rolling table side.
5. A device according to one or more of the claims 2 to 4, characterized in that the clamping element (7) is provided with coupling elements (21) for coupling with the holding elements (6, 6') of the frame arms (22, 29).
6. A device according to one or more of the claims 2 to 5, characterized in that the holding element (6) at the free end

of the upper, horizontal frame arm (22) comprises at least one pressure plate (23, 23') and the clamping element (7) has congruent gliding plates (24, 24' and 38, 38') for overlapping them, and that the clamping element (7) is movable by force means (25, 25') on a horizontal gliding path (26, 26') with its gliding plates (24, 24' and 38, 38') across the pressure plates (23, 23' and 37, 37) for generating a positive and non-positive coupling.

7. A device according to one or more of the claims 2 to 6, characterized in that the holding element (6) at the free end of the upper horizontal frame arm (22) is provided with threaded spindle coupling rods (32, 32') connected so as to be pivotable to both sides, which, by means of recesses (27, 27' and 39, 39'), are engageable in congruent coupling sockets (28, 28') of the lower frame arm (29) or in the congruent coupling sockets (40, 40') of the upper holding element (6) and adjustable by a force means (30) for generating a positive and non-positive connection with the aid of their spindle drives (31, 31').
8. A device according to one or more of the claims 2 to 7, characterized in that the clamping element (7) correlated transversely to the frame arms (22, 29) can be folded upwardly by means of a joint (34) with a pivot axis (35) extending parallel to the rolling line with the aid of at least one force means (36) for coupling of the two frame arms (22, 29) or folded down for releasing the coupling of the frame arms.